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ABSTRACT

This report presents the results of an achievement and enrollment study of the law and public service magnet program at the Northeast Law and Public Service Magnet High School (Kansas City, Missouri). Achievement test scores for students in the program were at or slightly above those of the district as a whole for the 1990-1991 year. It also was found that when ninth-grade law and public service cohorts were tracked through their years in the district, the gaps between minority and non-minority students in the program narrowed. Further, in the fall of 1990, the law and public service program reached 93% of capacity enrollment. One grade level met the goal of remaining at or below 60% minority enrollment in the fall of 1990. (DB)

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**Achievement and Enrollment
Evaluation of the
Northeast Law and Public Service
Magnet High School**

1990-1991

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August 1991

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ACHIEVEMENT AND ENROLLMENT EVALUATION OF THE NORTHEAST LAW AND PUBLIC SERVICE MAGNET

Introduction

The 1990-1991 school year was the fourth year of implementation for the law and public service theme at Northeast Law, Public Service, and Military Magnet under the *Long-Range Magnet School Plan* (Hale and Levine, 1986). During the third year of implementation, the military science theme was added to the school, making Northeast a dual theme school.

The *Long-Range Magnet School Plan* (Hale and Levine, 1986) specifies that evaluations of magnet schools will occur in three-year cycles. For the first two years a magnet program is in operation, a formative evaluation will be conducted. During the third year of implementation, a summative evaluation report will be prepared. The subsequent three-year cycles will include two years of achievement and enrollment summaries and conclude with a summative study.

This report presents the results of the achievement and enrollment study for the law and public service magnet program at Northeast. Achievement and enrollment data will be reported for the 1990-1991 school year.

Program Description

In accordance with the *Long-Range Magnet School Plan* (Hale and Levine, 1986), a site task force at Northeast developed a planning outline during the 1986-1987 school year to provide guidance for the implementation of the law and public service theme. Within the theme, students can specialize in law enforcement, fire technology, public service, or law. Required and elective courses are offered in each of these areas. In addition, each student is required to take urban studies and an information processing course.

Results

Achievement

For this achievement and enrollment evaluation, percentile ranks based on mean grade equivalents for the reading, written expression, and math Tests of Achievement and Proficiency (TAP) are reported for minority and non-minority law and public service students for each grade level for each year of program implementation. These data are found in Table 1. The total ninth-grade math percentile rank and the total ninth-, eleventh-, and twelfth-grade

Table 1
Northeast Law & Public Service Tests of Achievement & Proficiency
Percentile Ranks Based on Grade Equivalents - 1987, 1988, 1989, 1990, 1991

Test Grade	1987			1988			1989			1990			1991			District 1991		
	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.	Total
Reading																		
Nine	25	32	28	31	41	35	38	43	40	38	53	44	44	56	48	37	59	41
Ten	27	41	33	21	37	27	41	44	42	39	52	44	39	50	44	37	57	43
Eleven	28	51	39	28	41	33	30	40	33	39	44	40	40	50	44	37	58	40
Twelve	24	47	33	32	52	42	37	50	42	33	40	36	40	46	42	36	56	39
Written Expression																		
Nine	35	33	34	42	46	44	45	46	45	40	47	43	45	47	46	43	52	45
Ten	32	37	34	29	38	32	41	41	41	41	46	43	44	50	46	43	53	44
Eleven	28	41	34	31	42	34	32	37	33	38	39	38	41	46	43	39	55	42
Twelve	27	43	33	30	40	34	31	40	34	32	34	33	43	40	43	39	49	41
Math																		
Nine	30	23	26	30	37	34	30	37	33	28	42	35	32	40	36	32	51	36
Ten	35	45	38	35	40	37	41	43	42	36	46	41	37	44	41	36	52	40
Eleven	32	44	37	36	48	42	40	37	39	40	46	41	39	46	41	37	56	40
Twelve	28	49	36	39	42	40	40	45	41	40	35	38	41	42	41	36	49	39
Social Studies																		
Nine	26	33	29	38	38	38	34	44	38	36	48	41	35	45	37	33	57	37
Ten	28	42	34	24	37	30	48	48	48	40	56	46	44	54	48	40	65	47
Eleven	27	46	36	30	45	36	31	40	34	41	41	41	38	55	45	40	62	45
Twelve	24	47	32	28	44	35	25	42	30	27	37	31	39	38	38	36	51	38

Note: The 1988 and 1989 scores were converted to be comparable to 1985 norms.

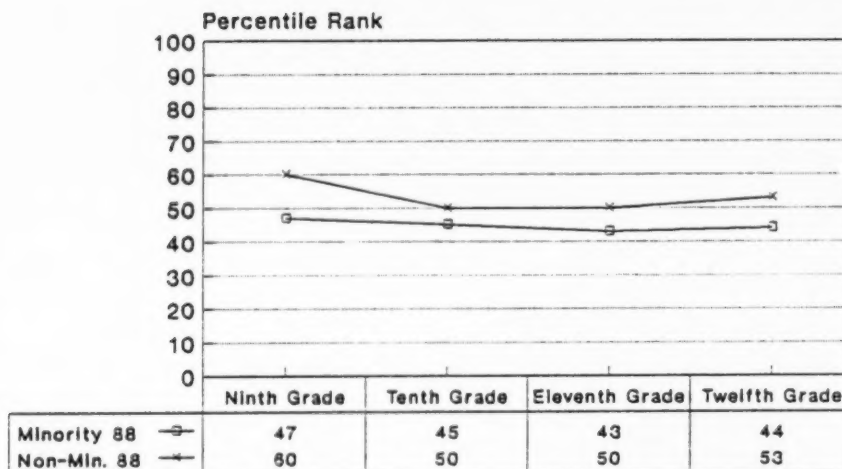
social studies scores are identical with those of the district. The remaining total scores are slightly above those of the district.

To trace the progress of students in the program at least three years, the TAP percentile ranks of 1988 and 1989 ninth-grade cohorts of minority and non-minority students are presented in Figures 1-4. For reading (Figure 1), the gap between minority and non-minority students narrowed slightly for each cohort in the last grade shown when compared to the ninth-grade gap. For written expression (Figure 2), the gap between minority and non-minority students for the 1988 cohort not only narrowed in their twelfth-grade year, minority students and non-minority students changed places from the time they were in ninth grade. In the 1989 cohort, the gap between the math scores of the two groups remained at two percentile ranks in the first and last years tracked. For math (Figure 3), the scores of minority and non-minority students closely paralleled each other in both cohorts, with the groups changing places from the first to the last years tracked. For social studies (Figure 4), the 1988 cohort scores were nearly identical (again, the groups changed places from the first to the last years tracked). The 1989 cohort for the social studies scores was the only group to see the gap between minority and non-minority students widen slightly (from four to nine percentile rankings).

In order to see if significant differences (at the .05 level) exist between the 1991 TAP grade equivalent scores of the students in the law and public service magnet and those of students from the rest of the district, a random selection of district students was made at each grade level to produce groups of equal size for Northeast and the rest of the district. To compensate for varying abilities of students in the two groups, analysis of covariance procedures were run. The 1991 scores were covaried with the students' most recent verbal Cognitive Abilities Tests (CAT) scores. Summary data are presented in Table 2. The adjusted means in the table represent a scientific estimate of student performance on the 1991 TAP tests, assuming that the students had identical verbal CAT scores. The adjusted mean is computed during the analysis of covariance procedure. As can be seen from the table, significant differences were found in three of the 16 analyses. In each case, law and public service student scored significantly higher than other district students. The differences were found in ninth-grade reading and in eleventh-grade reading and written expression.

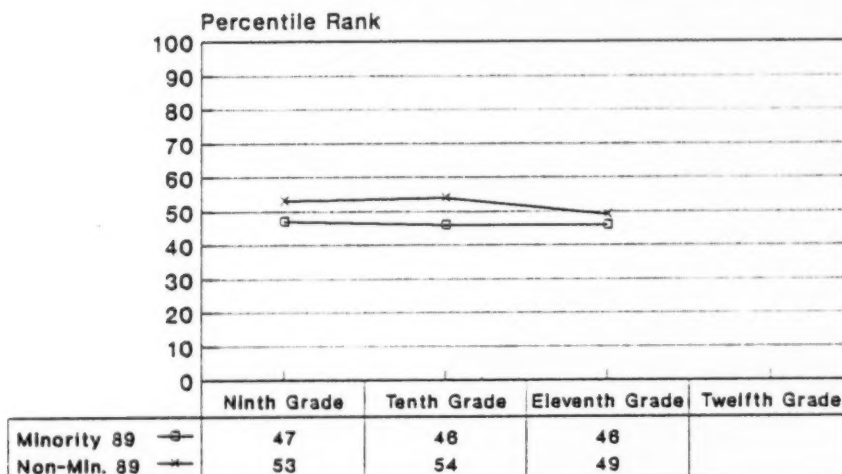
Table 3 displays the tenth grade Missouri Mastery and Achievement Tests (MMAT) average scale scores in the areas of reading/English and math for Northeast's total student population. The *Missouri Mastery and Achievement Tests, Guide to Score Interpretation and*

Figure 1A
TAP Reading Achievement Across Time
1988 Ninth-Grade Cohort



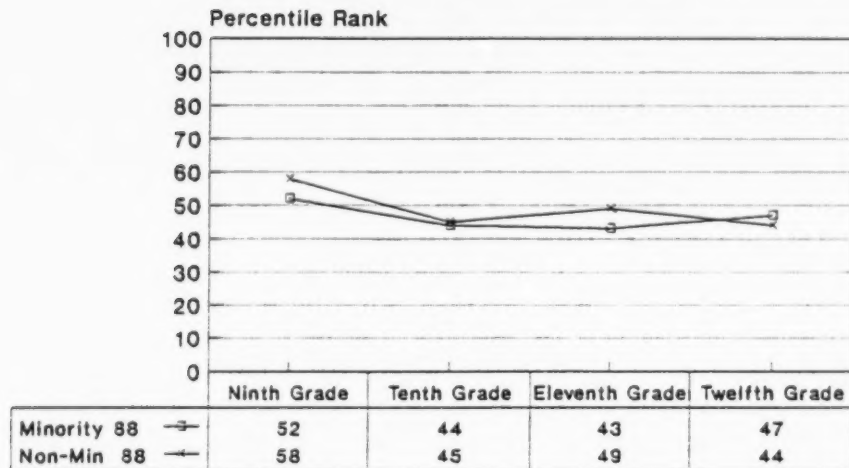
Note: Percentile ranks were converted
from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 1B
TAP Reading Achievement Across Time
1989 Ninth-Grade Cohort



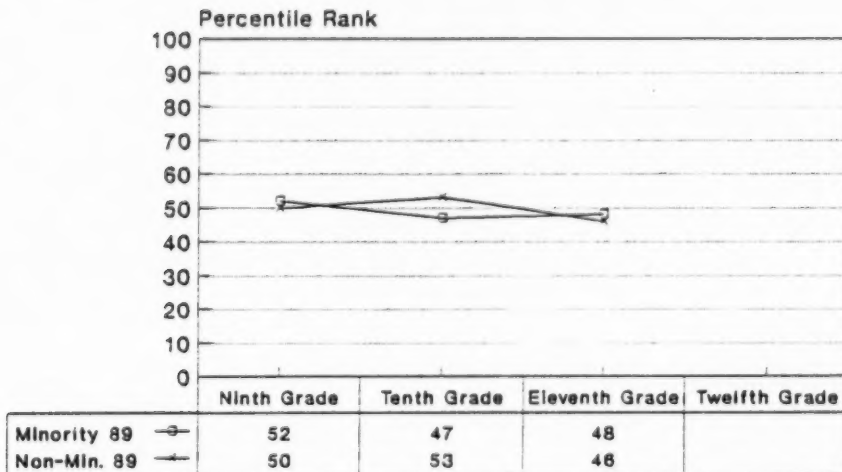
Note: Percentile ranks were converted
from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 2A
TAP Written Exp. Achievement Across Time
1988 Ninth-Grade Cohort



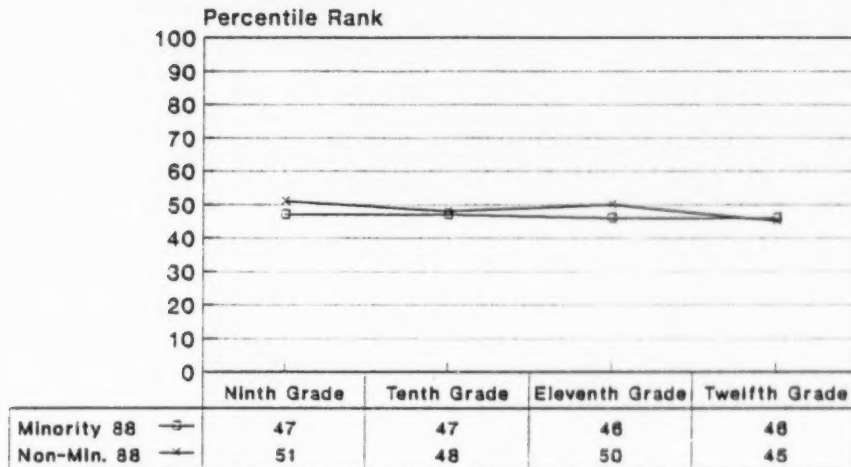
Note: Percentile ranks were converted from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 2B
TAP Written Exp. Achievement Across Time
1989 Ninth-Grade Cohort



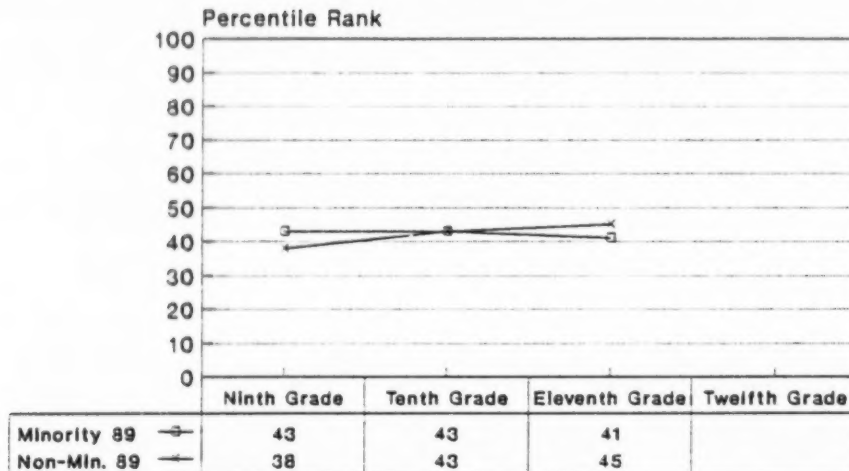
Note: Percentile ranks were converted from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 3A
TAP Math Achievement Across Time
1988 Ninth-Grade Cohort



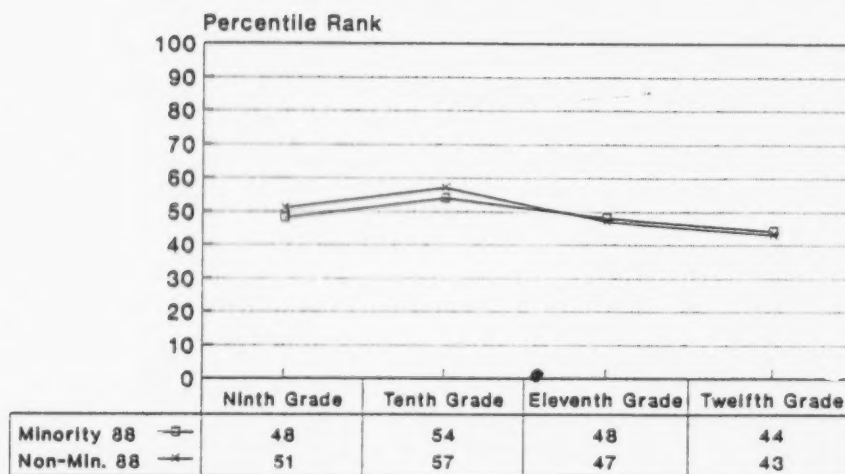
Note: Percentile ranks were converted
from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 3B
TAP Math Achievement Across Time
1989 Ninth-Grade Cohort



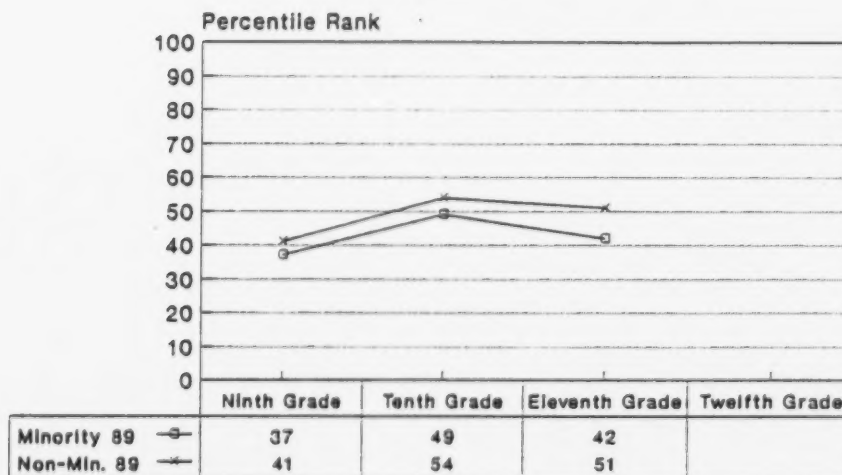
Note: Percentile ranks were converted
from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 4A
TAP Soc. Studies Achievement Across Time
1988 Ninth-Grade Cohort



Note: Percentile ranks were converted
from mean grade equivalent scores
Northeast Law and Public Service, 1991

Figure 4B
TAP Soc. Studies Achievement Across Time
1989 Ninth-Grade Cohort



Note: Percentile ranks were converted
from mean grade equivalent scores
Northeast Law and Public Service, 1991

Table 2
Summary Data for the 1991 TAP Reading, Writing, Math, and Social Studies
Tests for Analysis of Covariance with Northeast Law & Public Service
Students and Randomly Selected District Students

Test	Program		Probability	Groups
	Grade Means	Law & Public Service (LPS)		
Reading				
Nine				
Unadjusted	9.8	9.3		
Adjusted	9.9	9.2	.00*	LPS > OTH ¹
Ten				
Unadjusted	10.3	10.6		
Adjusted	10.4	10.4	1.00	
Eleven				
Unadjusted	11.5	10.3		
Adjusted	11.3	10.5	.02*	LPS > OTH
Twelve				
Unadjusted	11.7	11.5	.60	
Written Expression				
Nine				
Unadjusted	9.6	9.6		
Adjusted	9.7	9.5	.58	
Ten				
Unadjusted	10.8	11.0		
Adjusted	10.9	10.9	.81	
Eleven				
Unadjusted	11.6	10.3		
Adjusted	11.4	10.5	.01*	LPS > OTH
Twelve				
Unadjusted	11.8	11.5	.47	

Note: Analysis was done using grade equivalents. Cognitive Abilities Test (CAT) verbal scores were used as pre-test scores. CAT scores were not available for twelfth grade students.

* Indicates significance at at least the .05 level.

¹ The group presented to the left of the ">" (greater than) sign scored significantly higher than the group presented to the right of the sign. For example, if students in the law and public service magnet have scores that are significantly higher than those of the traditional group, the entry would read LPS > OTH.

Use (Missouri Department of Elementary and Secondary Education, 1990) indicates that a difference of 25 or more scaled score points represents a meaningful difference when comparing groups of students. For both tests, the average scale scores of the law and public service students were well within 25 points of the overall district average scale scores. There were, however, meaningful differences between law and public service student average scores and those of the state, with the law and public service scores being lower.

Table 3
Northeast Law, Public Service, & Military Magnet
Missouri Mastery & Achievement Tests
Average Scale Scores
Grade 10 - 1991

Program	English/ Language Arts	Math
School	265	267
District	273	278
State	313	326

Enrollment Goals

Table 4 shows the September 1990 program capacity for the law and public service magnet program and compares it to the actual enrollment. As can be seen from the table, the ninth grade was over capacity, with the other three grades under capacity. Overall the program was at 93% capacity.

The court-ordered minority/non-minority enrollment goal for each grade level is a crucial aspect of the magnet program. Each year, grade levels that have a higher-than 60% minority student population are expected to move at least 2% closer to a 60% minority/40% non-minority balance. A grade level with a minority enrollment lower than 50% is expected to move at least to a 50% minority enrollment, with a goal of moving to a 60% minority enrollment. Table 5 shows the enrollment for the year prior to magnet implementation and for the four years of magnet operation. As can be seen, three of the grades had minority enrollment under 60% in the baseline year (1986). The tenth grade, which had a 63% minority enrollment in the baseline year, later dropped below 60%. Once the 60% level has been attained, the goal is to hold the enrollment steady between the 50% and 60% minority level. The table shows that the enrollments in three of the grades which had been within the guidelines in at least one previous year had crept back above the 60% mark. The ninth grade is the only grade that has maintained its position between the 50% and 60% guidelines during each implementation year.

Table 4
Northeast Law & Public Service Magnet
Capacity & Actual Enrollment
September 1990

Grade	Program Capacity ¹	Actual ²	Difference	% of Capacity
Nine	202	238	+ 36	118%
Ten	246	216	-30	88%
Eleven	233	201	-32	86%
Twelve	194	162	-32	84%
Total	875	817	-58	93%

Note: Percentages are rounded to the nearest whole percent.

1 Program capacity utilized by the Admissions Office when placing students in magnet program.

2 From *September 26, 1990, Student Membership* (Research Office, 1990).

Summary

In its fourth year as a magnet program, the law and public service program at Northeast had achievement test scores at or slightly above those of the district as a whole. Of the 16 analysis of covariance procedures comparing law and public service scores with scores of students randomly selected from the rest of the district, significant differences were found in three instances. In each of the three cases, law and public service student scores were higher than those of other district students.

For the most part, when ninth-grade law and public service cohorts were tracked through their years with the district, the gaps between minority and non-minority students in the program narrowed. In some instances the two groups switched places. In only one case did the gap increase slightly.

In the fall of 1990, the law and public service program reached 93% of capacity enrollment. One grade level met the goal of remaining at or below 60% minority enrollment in the fall of 1990.

Table 5
Northeast Law & Public Service Magnet Enrollment

Grade	Sept. 1986		Year 1-Sept. 1987		Year 2-Sept. 1988		Year 3-Sept. 1989 ¹		Year 4-Sept. 1990	
	Enroll.	% Minority	Enroll.	% Minority	Enroll.	% Minority	Enroll.	% Minority	Enroll.	% Minority
Nine	404	52%	377	56%	343	55%	244	59%	238	58% *
Ten	299	63%	248	62%	234	54%	240	60%	216	65%
Eleven	196	57%	207	62%	227	60%	194	62%	201	65%
Twelve	187	56%	153	54%	149	64%	131	63%	162	67%
All Grades	1086	56%	985	59%	953	57%	809	61%	817	63%

Note: Percentages are rounded to the nearest whole percent. 1986 enrollment figures are computed by subtracting students in self-contained special education programs (numbers obtained from the Research Office) from total enrollment figures reported in *A By-School Comparison of Student Enrollment by Race & Grade for the Years 1986-87 & 1987-88* (Research Office, 1987); 1988 enrollment figures are from *September 28, 1988, Student Membership* (Research Office, 1988); 1989 enrollment figures are from *September 27, 1989, Student Membership* (Research Office, 1989); 1990 enrollment figures are from *September 26, 1990, Student Membership* (Research Office, 1990); 1991 enrollment figures are from *September 25, 1991, Student Membership* (Research Office, 1991).

¹ During the 1989-1990 school year, the military science theme was added to Northeast. These figures reflect only students enrolled in the law and public service theme.

* The enrollment goal was reached at this grade level.

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